

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A mobile communication system which includes a mobile unit, a radio base station, and a radio controller,

wherein

the radio controller comprises:

first and second user plane processing means for performing processing to control transfer of user data in relation to the mobile unit; and

control plane processing means for processing to control transfer of signaling having a control signal, the control plane processing means being physically separated from the first and second user plane processing means and being provided in an upper position of the first and second user plane processing means, and

when detecting a congestion state of processing, the first user plane processing means transfers a first part of the processing to the second user plane processing means while maintaining a second part of the processing at the first user plane processing means.

2. (Original) The mobile communication system according to Claim 1, wherein

the first user plane processing means is an active system connected to the radio base station, and

the second user plane processing means is a backup system for the first user plane processing means.

3. (Original) The mobile communication system according to Claim 1, wherein the first user plane processing means comprises means for, in response to the detection of the congestion state, controlling so as to switch a transmission/reception destination of the control signal and the user data to the second user plane processing means as well as transmitting a switching direction to the second user plane processing means, and means for notifying the second user plane processing means of information necessary for processing transferred to the second user plane processing means.

4. (Original) The mobile communication system according to Claim 3, wherein the second user plane processing means comprises means for inheriting the information in response to the notice of the information as well as processing the control signal and the user data in response to reception of the switching direction.

5. (Original) The mobile communication system according to Claim 1, wherein

the radio base station is present in a first communication network, and the first and second user plane processing means and the control plane processing means are connected to a second communication network different from the first communication network, and

the first user plane processing means further comprises conversion interface means between the first and second communication networks.

6. (Original) The mobile communication system according to Claim 5, wherein the second user plane processing means transmits and receives the control signal and the user data via the conversion interface means in the first user plane processing means.

7. (Original) The mobile communication system according to Claim 5, wherein the first communication network includes an ATM communication network, and the second communication network includes an IP communication network.

8. (Previously Presented) An operation control method in a mobile communication system which includes first and second user plane processing means for performing processing to control transfer of user data in relation to a mobile unit and control plane processing means for performing processing to control transfer of signaling having a control signal, the control plane processing means being physically separated from the first and second user plane processing means and being provided in an upper position of the first and second user plane processing means,

wherein the first user plane processing means executes a step of, when a congestion state of processing is detected, transferring a first part of the processing to the second user plane processing means while maintaining a second part of the processing at the first user plane processing means.

9. (Original) The operation control method according to Claim 8, wherein the first user plane processing means is an active system connected to a radio base station for providing a radio bearer to the mobile unit, and the second user plane processing means is a backup system for the first user plane processing means.

10. (Original) The operation control method according to Claim 8, wherein the first user plane processing means further executes:

a step of, in response to the detection of the congestion state, controlling so as to switch a transmission/reception destination of the control signal and the user data to the second user plane processing means;

a step of transmitting a switching direction to the second user plane processing means; and

a step of notifying the second user plane processing means of information necessary for processing transferred to the second user plane processing means.

11. (Original) The operation control method according to Claim 10, wherein the second user plane controlling means executes:

a step of inheriting the information in response to the notice of the information; and

a step of processing the control signal and the user data in response to reception of the switching direction.

12. (Original) The operation control method according to Claim 8, wherein the radio base station is present in a first communication network, and the first and second user plane processing means and the control plane processing means are connected to a second communication network different from the first communication network, and

the first user plane processing means further executes a step of performing interface conversion between the first and second communication networks.

13. (Original) The operation control method according to Claim 12, wherein the second user plane processing means transmits and receives the control signal and the user data via the step of performing the interface conversion in the first user plane processing means.

14. (Original) The operation control method according to Claim 12, wherein the first communication network includes an ATM communication network, and the second communication network includes an IP communication network.

15. (Previously Presented) The mobile communication system according to Claim 1, wherein the congestion state of processing corresponds to the first user plane processing means operating in a normal state of operation, but with an input amount of data to be processed by the first user plane processing means being greater than a predetermined amount.

16. (Previously Presented) The operation control method according to Claim 8, wherein the congestion state of processing corresponds to the first user plane processing means operating in a normal state of operation, but with an input amount of data to be processed by the first user plane processing means being greater than a predetermined amount.

17. (Previously Presented) The mobile communication system according to Claim 1, wherein the first user plane processing means controls the transfer of the second part of the processing to the second user plane processing means.

18. (Previously Presented) The operation control method according to Claim 8, wherein the first user plane processing means controls the transfer of the second part of the processing to the second user plane processing means.

19. (New) The mobile communication system according to claim 1, wherein said first user plane processing means comprises:

a Layer 2 processing unit;

an ATM/IP interface unit that is configured to convert ATM packets input thereto from an external node to IP packets and to transfer the IP packets to either said Layer 2 processing unit or to a router, said ATM/IP interface unit also configured to convert IP packets input thereto from said Layer 2 processing unit or from said router into ATM packets and to transfer said ATM packets to said external node; and

an APL unit that is configured to provide control information to said ATM/IP interface unit to direct transfer of said ATM packets and said IP packets to either said Layer 2 processing unit or said router.

20. (New) The mobile communication system according to claim 19, wherein said APL unit comprises:

- a lower protocol management part;
- a congestion detection part that detects a state of congestion;
- a congestion state control part that performs control during the state of congestion as detected by said congestion detection part;
- a control unit for controlling said lower protocol management part, said congestion detection part, and said congestion state control part; and
- a bus that communicatively connects said lower protocol management part, said congestion detection part, and said congestion state control part.